

Through noon today (5/5/2010) the following have been completed at the Ex. 5 - Personal Privacy Well Site:

A sample of fluids within the Frac Pit at the Ex. 5 - Personal Privacy 435 site was collected by East Resources Ex. 4 - CBI and Penn E&R Ex. 4 - CBI on 5/3/2010 at 13:20. Penn E&R submitted this sample to Pace Analytical Laboratories in Greensburg, PA via FedEx for the analysis of gross alpha/beta activity and gamma spectroscopy for Uranium, Thorium, and Radium isotopes.

Additionally, the site was surveyed for gross gamma radiation in units of counts per minute (cpm) on 5/4/2010 by Safety and Ecology Corp. Ex. 4 - CBI and Penn E&R Ex. 4 - CBI. The gross gamma walk-over survey was performed using a 2-inch by 2-inch sodium iodide (NaI) detector sensitive to environmental background levels of gamma radiation. NORM, specifically Ra-226 emits gamma easily detected by walk-over survey technique employed. The background gross gamma count rate measured off site was 10,000 cpm. A field sketch illustrating the areas surveyed is included as Figure 1. Results of the survey are summarized below:

- * 13,000 to 14,000 cpm around the rim of the Frac Pit. The Frac Pit was empty at the time of the survey.
- * 14,000 cpm in rock lined E&S channel below pit.
- * 11,000 cpm outside fenced area surrounding soil excavation area.
- * 10,000 to 12,000 cpm in sump area within soil excavation area (standing water present in the sump contained 18,000 ppm Chlorides based on field testing performed by East personnel)
- * 12,000 to 13,000 cpm on excavated soil pile staged within fenced area.
- * 13,000 to 14,000 cpm on surface of excavated area within fence.
- * 16,000 cpm maximum count rate in corner of excavated area within fence.
- * 11,000 to 14,000 cpm on excavated soil stockpiled on liner across the lot from frac pit.

Gross gamma count rates below twice background are indicative of activity concentrations below 5 pCi/g Ra-226, the value used by USEPA as default release criteria for Ra-226. The impact of the radioactivity within the water released is minimal. Although radioactivity above the background value (10,000 cpm) was detected, the majority of the area impacted by the release scanned at 10,000 to 12,000 cpm. The maximum reading of 16,000 cpm is slightly above 1.5 times background and the scan survey results are consistent with unrestricted release criteria. Unrestricted release criteria are very conservative and based on a number of different exposure scenarios including the resident farmer scenario. This scenario includes exposure from eight pathways including groundwater pathways and milk and meat consumption from livestock raised on the land. Exposure to humans is generally limiting, meaning allowable concentrations based on human exposure are lower than the same limit derived based on exposure of animals.

Acute effects from exposure to radioactivity are rare and only occur when thresholds beginning at 25 rem of exposure are exceeded. The exposure associated with the area impacted by the water release are in the micro-rem range (10-6 rem), 6 orders of magnitude below the threshold for acute effects.

Finally, the Ex. 5 - Personal Privacy water supply was sampled by Penn E&R Ex. 4 - CBI on 5/5/10 at 9:15 am and a confirmation soil sample was collected from the center of the soil excavation area on 5/5/10 at 9:30 am. These samples will be delivered to the laboratory for analysis this afternoon.